

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

First  
Named

Inventor: Jian-Ku Shang

Serial No.: 10/797,582

Examiner: Gray, Jill M.

Filing Date: March 10, 2004

Group Art Unit: 1774

Title: HIGH SURFACE AREA CERAMIC  
COATED FIBERS

Confirmation No.: 4720

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

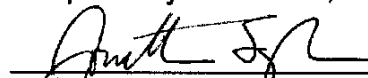
Dear Sir:

In accordance with the provisions of 37 C.F.R. § 1.56, Applicants request that citation and examination of the references identified on the attached Form PTO-1449, required copies of which are enclosed herewith in accordance with 37 C.F.R. §1.98, be made during the course of examination of the above-referenced application for United States Letters Patent.

Since this Information Disclosure Statement is being submitted after the mailing of the first Office Action, payment of the fee set forth in 37C.F.R. §1.17(p) accompanies this submission.

- Payment by credit card.

Respectfully submitted,



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Form PTO-1449 (Rev. 8-88)	Attorney Docket No. ILL09-029-US	Serial No. 10/797,582
<b>INFORMATION DISCLOSURE CITATION</b> (Use several sheets if necessary)	First Named Inventor: Jian-Ku Shang	
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U.S. PATENT DOCUMENTS							
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	Z2	3,373,104	03/1968	Ryan			
	Z3	3,395,970	08/1968	Machell			
	Z4	3,520,805	07/1970	Ryan			
	Z5	3,542,582	11/1970	Degginger			
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	Z8	3,853,721	12/1974	Darlington et al.			
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	Z16	4,265,768	05/1981	Beasley et al.			
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	Z21	4,362,646	12/1982	Ikegami et al.			
	Z22	4,476,191	10/1984	Girgis			

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	Z23	4,513,032	04/1985	Klinkowski			
	Z24	4,544,499	10/1985	Tran et al.			
	Z25	4,550,015	10/1985	Korb et al.			
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	Z45	5,276,000	01/1994	Matthews et al.			
	Z46	5,277,802	01/1994	Goodwin			
	Z47	5,304,527	04/1994	Dimitri			
	Z48	5,318,846	06/1994	Bruening et al.			
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							Yes	No
	Y2	3339756 A1	05/1985	DE				X
	Y3	0 036 584 A2	09/1981	EP				X
	Y4	0 045 824 A1	02/1982	EP				

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	Y5	0 285 321 A2	10/1988	EP				
	Y6	0 608 539 A1	08/1994	EP				
	Y7	0 630 685 A1	12/1994	EP				X
	Y8	0 608 539 A1	08/1994	EP				
	Y11	1 415 853	11/1975	GB				
	Y13	WO 01/97973	12/2001	WO				
	Y14	WO 98/34723	08/1998	WO				
	Y15	WO 99/61384	12/1999	WO				
	Y18	WO 2005/087679	09/2005	WO				
	Y19	JP 56 0044039 A	04/1981	Japan			Abstract	

Examiner Initials*		OTHER ITEMS – NON PATENT LITERATURE DOCUMENTS	
		Include, as applicable: Author, Title, Date, Publisher, Edition or Volume, Pertinent Pages	
	X1	"Ion Exchange", Kirk-Othmer Encyclopedia of Chemical Technology, 3 <sup>rd</sup> Ed., vol. 13, pp. 685-689 and 694, 1981.	
	X2	Abstract for "Carborundum Process Converts Pitch Into Non-Flammable Fiber", Industrial Research vol. IR-100, Circle 231, 1 page, 1972.	
	X3	Ahmadpour, et al., "The Preparation of Active Carbons from Coal by Chemical And Physical Activation", Carbon, vol. 34, No. 4, pp. 471-479, 1996.	
	X4	Andreopoulos, et al., "Thermally Activated Phenolic Fibers", Chemistry of Materials, vol. 3, No. 4, pp. 594-597, 1991.	
	X6	Ayles, "Phenolic", Modern Plastics Encyclopedia Handbook, pp. 78-80, 1994.	
	X7	Carrott, et al., "Preparation of activated carbon `membranes` by physical and chemical activation of cork", Carbon, vol. 37, pp. 515-517, 1999.	
	X9	Dimotakis, et al., "Water Vapor Adsorption on Chemically Treated Activated Carbon Cloths", Chemistry of Materials, vol. 7, pp. 2269-2272, 1995.	
	X10	Dominguez, et al., "Design of High Efficiency Polymeric Cation Exchange Fibers", Polym. Adv. Techol. 12, pp.197-205, 2001.	
	X11	"Ion Exchangers", Dorfner, editor, pp. 28-45 and 206-285, 1990.	
	X12	Economy, et al., "Adsorption Characteristics of Activated Carbon Fibers", Applied Polymer Symposium No. 29, 199-211, 1976.	

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	X14	Economy, et al., "Tailoring Carbon Fibers for Adsorbing Volatiles", Chemtech, pp. 597-603, 1992.
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	X19	Feng, et al., "Functionalized Monolayers on Ordered Mesoporous Supports", Science, Vol. 276, pp. 923-926, 1997.
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	X24	Jagtoyen, et al., "Some Considerations of the Origins of Porosity in Carbons from Chemically Activated Wood", Carbon, vol. 31, No. 7, pp. 1185-1192, 1993.
	X26	Kunin, "Six Decades of Ion Exchange Technology at Rohm and Haas", Chemical Heritage 17:2, pp. 8, 9, 36-38, 1999.
	X27	Lee, et al., "Vapor adsorption on coal-and wood-based chemically activated carbons (II) adsorption of organic vapors", Carbon, vol. 37, pp. 15-20, 1999.
	X28	Lin, et al., "Extraction of Gold from Au(III) Ion Containing Solution by a Reactive Fiber", Journal of Applied Polymer Science, vol. 49, pp. 1635-1638, 1993.
	X29	Lin, et al., "Studies of the Preparation, Structure, and Properties of an Acrylic Chelating Fiber Containing Amidoxime Groups," Journal of Applied Polymer Science, vol. 47, pp. 45-52, 1993.
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	X32	Liu, et al., "Surfactant-Directed Synthesis of Nanoporous Thiol-Functionalized Organic-Inorganic Hybrid Fibers for Highly Selective Removal of Mercury", Polymeric Materials: Science & Engineering, 91, pp. 1037-1038, 2004.
	X33	Liu, et al., "Novel Polymeric Chelating Fibers for Selective Removal of Mercury and Cesium from Water", Environmental Science and Technology, vol. 37, No. 18, pp. 4261-4268, 2003.
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	X35	Liu, et al., "Hybrid Mesoporous Materials with Functionalized Monolayers", Chem. Eng. Technol., 21, pp. 97-100, 1998.
	X36	Liu, et al., "Hybrid Mesoporous Materials with Functionalized Monolayers", Adv. Mater., Vol. 10, No. 2, pp. 161-165, 1998.
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	X38	Molina-Sabio, et al., "Development of Porosity in Combined Phosphoric Acid-Carbon Dioxide Activation", Carbon, vol. 34, No. 4, pp. 457-462, 1996.
	X39	Molina-Sabio, et al., "Porosity in Granular Carbons Activated with Phosphoric Acid", Carbon, vol. 33, No. 8, pp. 1105-1113, 1995.

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	X41	Odian, Principles of Polymerization, Third Edition John Wiley & Sons, pp. 125-132, 1991.
	X43	Rodriguez, "Table 15.11 Aldehyde condensation products", Principles of Polymer Systems, Fourth Edition, p. 638, 1996.
	X45	Search Report for Patent Cooperation Treaty application No. PCT/US 01/41081, 7 pages, Date of Mailing Nov. 9, 2001.
	X46	Search Report for Patent Cooperation Treaty application No. PCT/US 01/19952, 8 pages, Date of Mailing Nov. 14, 2001.
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	X50	Toles, et al., "Production of Activated Carbons from a Washington Lignite Using Phosphoric Acid Activation", Carbon, vol. 34, No. 11, pp. 1419-1426, 1996.
	X51	Molina-Sabio, et al., "Influence of the atmosphere used in the carbonization of phosphoric acid impregnated peach stones", Carbon, vol. 33, no. 8, pp.1180-1182, 1995.

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